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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,763	09/30/2004	Scizo Inoue	Q83738	4340
23373 7590 10/30/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER BERTHEAUD, PETER JOHN	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 10/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/509,763	Applicant(s) INOUE ET AL.	
	Examiner Peter J. Bertheaud	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>20071022</u> .                           |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application  |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____.                          |

### **DETAILED ACTION**

1. Applicant's request for reconsideration of the finality of the rejection of the Office action dated 6/25/2007 is persuasive and, therefore, the finality of that action is withdrawn. The After-Final amendment filed 9/25/2007 has now been entered; therefore, claim 1 has been amended, claims 2 and 4 have been cancelled, and claim 9 has been added.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation " the convex portion" in the second to last line. There is insufficient antecedent basis for this limitation in the claim due to the fact that previously in the claim the convex portion was referred to in the alternative. Therefore, if the concave portion of the magnet is selected by the reader as the limitation then there is no antecedent basis for the convex portion at the end of the claim.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuckey 4,789,308 in view of Morii 4,570,093.

Tuckey discloses an electric fuel pump comprising a pump section that pressurizes and outputs fuel; and a yoke of a motor section fixed to the pump section; wherein the yoke comprises a first tubular yoke (see element in between 16 and 20) provided with a ring-shaped magnet 20 on an inner circumference and a second tubular yoke 16 provided on an outer circumference of said first tubular yoke at a position conforming to said magnet. Tuckey does not teach the following claimed limitations taught by Morii.

Morii teaches a DC motor assembly including a yoke 4, a ring-shaped drive magnet 13, and a rotatable shaft 1. Morii further teaches that at least one end face of said yoke 4 and said magnet 13 is on the same plane (see Fig. 6) and that an axial length of said yoke is substantially equal to an axial length of said magnet (see Fig. 6). Morii also teaches that the magnet is formed by injection molding (see col. 5, lines 50-53). It would have been obvious that a magnet, or any item, formed by injection molding will have a "gate portion" formed on a particular face of the magnet, depending on how the mold is constructed, after molding is complete. Morii also teaches that the use of rare-earth magnets in similar motors is conventional. Morii teaches that this would be advantageous because the torque generated per unit current is increased, so that the starting characteristics and volumetric efficiency of the motor are improved.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the electric fuel pump of Tuckey by matching the physical characteristics of the yoke to that of the magnet as well as using rare-earth magnets in the motor assembly, in order to improve the starting characteristics and volumetric efficiency of the motor (Morii, col. 2, lines 51-58).

Furthermore Tuckey discloses the claimed invention except for the first tubular yoke being 3 mm in thickness. It would have been an obvious matter of design choice to make it 3 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (see MPEP 2144.04, IV. A. – Change in Size/Proportion).

6. Claims 3, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuckey 4,789,308 in view of Morii 4,570,093, and in further view of Tuckey 4,401,416.

Tuckey 308 in view of Morii disclose the invention as discussed above. However, Tuckey 308 in view of Morii does not teach the following claimed limitations taught by Tuckey 416.

Tuckey 416 teaches a rotary fuel pump comprising a first tubular yoke 30, a second tubular yoke 40, and a ring shaped magnet 50, 51 (see col. 32, lines 67-68 and col. 3, lines 1-4). Tuckey 416 further teaches that the magnet 50, 51 is provided with a protrusion (see portion of 51 that sticks out past end of 50) or a concave portion (see opposite portion of 51 and 50 that creates a recess for 30 to fill in) at an end face

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thereof, and said protrusion or concave portion engages with a concave portion or a protrusion (see receiving portion of 30 for 51, or portion of 30 that fills in recess) of the other member fixed to said first tubular yoke or said second tubular yoke.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the electric fuel pump of Tuckey 308 in view of Morii by having a convex portion of the magnet received in a concave portion of the yoke in order to securely hold the various components together and to ease assembly of the pump (Tuckey 416, col. 3, lines 4-8).

#### ***Response to Arguments***

7. Applicant's arguments filed 9/25/2007 have been fully considered but they are not persuasive.

8. In response to Applicant's argument with respect to claim 1: Applicant argues that Morii does not disclose or suggest the gate portion being formed at an end face of the magnet. Examiner maintains that because the magnet is being formed by injection molding a gate portion would inherently have to be formed at an end face of the magnet.

9. In response to Applicant's argument with respect to the combination of Tuckey and Morii. Examiner maintains that by using the rare-earth magnet taught by Morii the flux linkage across the stator windings is increased and the torque generated per unit current is increased so that the starting characteristics and volumetric efficiency of the motor are improved (Morii, col. 2, lines 51-58). This is more than adequate motivation to combine the teaching of using a rare-earth magnet.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Bertheaud whose telephone number is (571) 272-3476. The examiner can normally be reached on M-F 9am - 5pm.

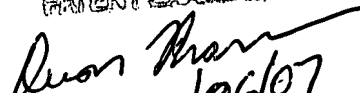
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
PJB 10/23/07

DEVON C. KRAMER  
PATENT EXAMINER

  
10/26/07